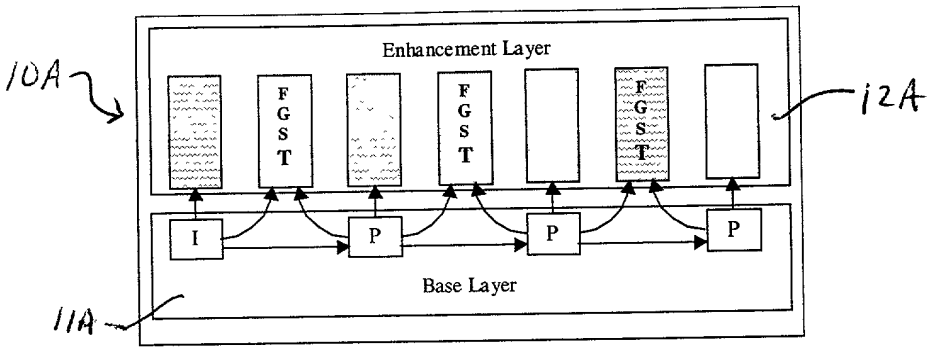



Fig. 1A
(Prior Art)

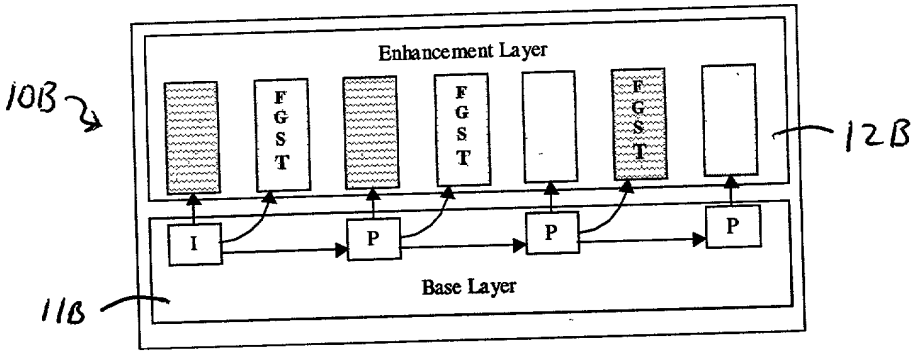



Fig. 1B
(Prior Art)

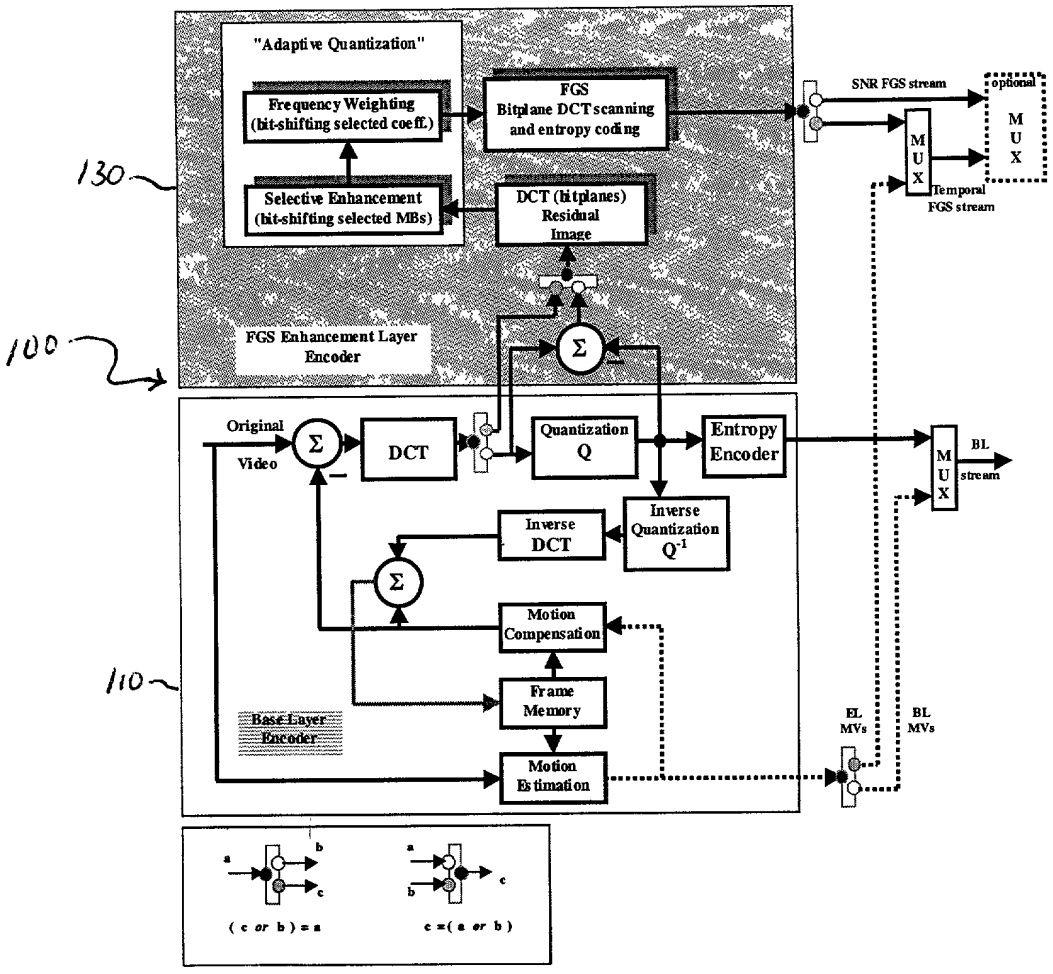



Fig. 2
(Prior Art)

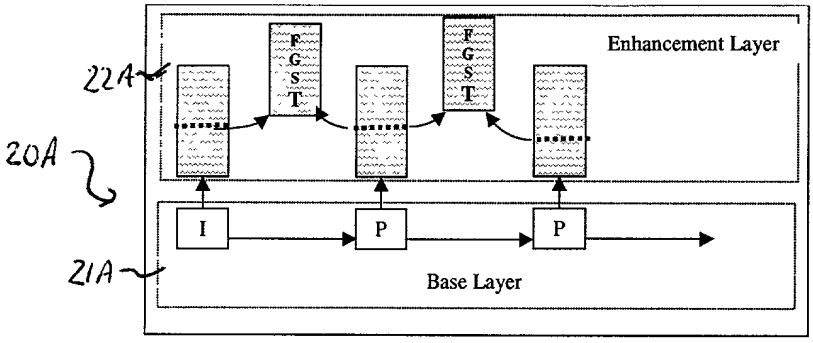

22A
20A
21A
FGST
FGST
Enhancement Layer
I
P
P
Base Layer

Fig. 3A

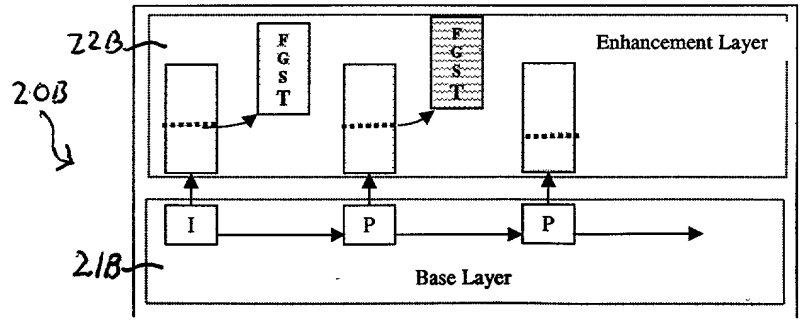

22B
20B
21B
FGST
FGST
Enhancement Layer
I
P
P
Base Layer

Fig. 3B

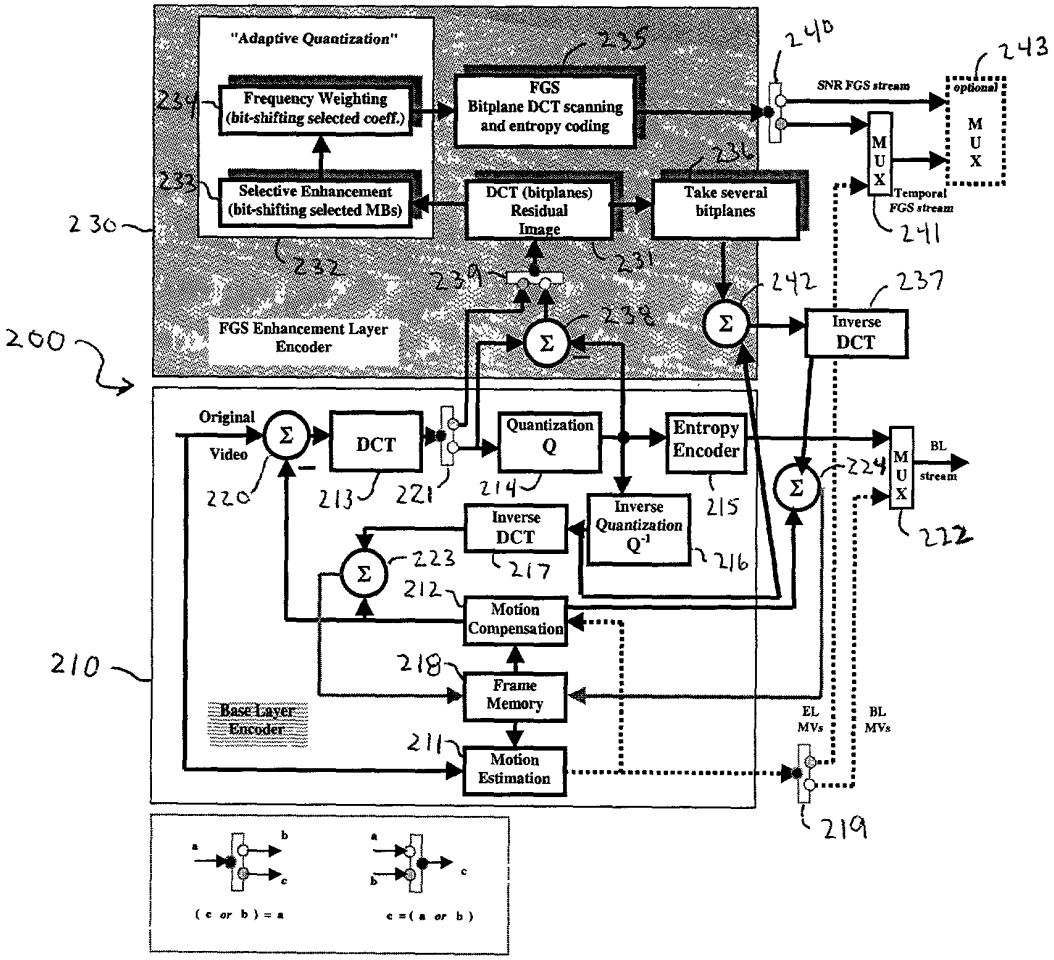

"Adaptive Quantization"
Frequency Weighting (bit-shifting selected coeff.)
Selective Enhancement (bit-shifting selected MBs)
FGS Bitplane DCT scanning and entropy coding
DCT (bitplanes) Residual Image
Take several bitplanes
FGS Enhancement Layer Encoder
SNR FGS stream
optional
Temporal FGS stream
MUX
Inverse DCT
Original Video
DCT
Quantization Q
Entropy Encoder
BL stream
Inverse Quantization Q-1
Motion Compensation
Frame Memory
Motion Estimation
Base Layer Encoder
EL MVs
BL MVs
(c or b) = a
c = (a or b)
200
210
230
232
234
233
235
236
237
238
239
240
241
242
243
220
221
213
214
215
216
217
218
219
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211
212

Fig. 4

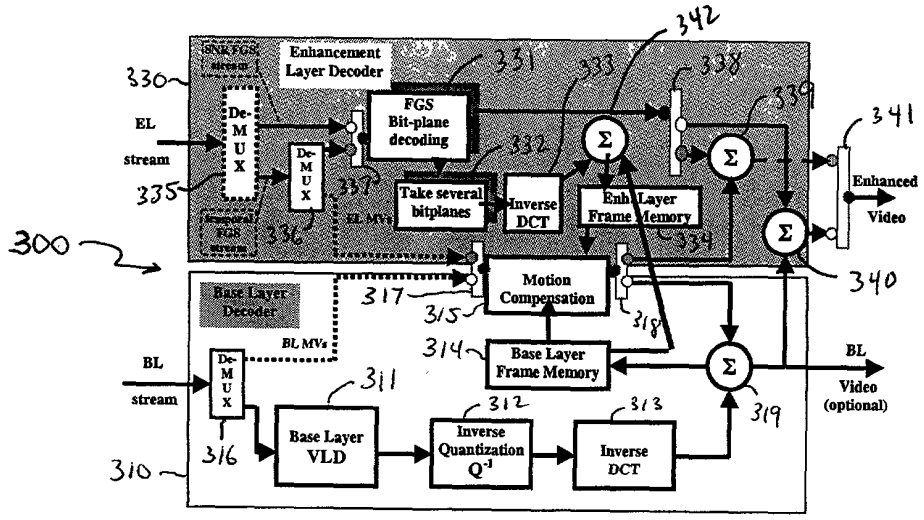

SNR FGS stream
Enhancement Layer Decoder
EL stream
De-MUX
FGS Bit-plane decoding
Take several bitplanes
Inverse DCT
Enh. Layer Frame Memory
Enhanced Video
Motion Compensation
Base Layer Decoder
BL MVs
BL stream
Base Layer Frame Memory
Base Layer VLD
Inverse Quantization Q-1
Inverse DCT
BL Video (optional)
300
310
311
312
313
314
315
316
317
318
319
330
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332
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342

Fig. 5

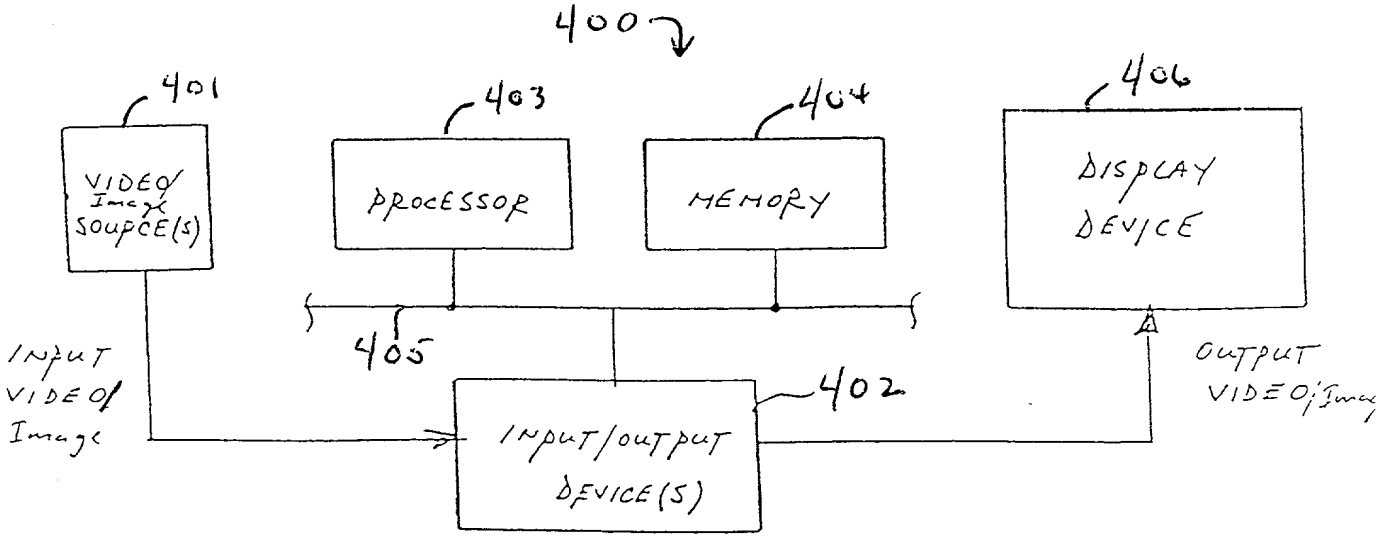

400
401
VIDEO/ Image SOURCE(S)
403
PROCESSOR
404
MEMORY
406
DISPLAY DEVICE
405
INPUT VIDEO/ Image
402
INPUT/OUTPUT DEVICE(S)
OUTPUT VIDEO/Image

Fig. 6